

Export intensity of foreign subsidiaries of multinational enterprises

Article

Accepted Version

Nguyen, Q. ORCID: <https://orcid.org/0000-0003-0179-3973>
(2022) Export intensity of foreign subsidiaries of multinational enterprises. *Management Decision*, 60 (12). pp. 3324-3349. ISSN 0025-1747 doi: 10.1108/MD-07-2021-0874 Available at <https://centaur.reading.ac.uk/104057/>

It is advisable to refer to the publisher's version if you intend to cite from the work. See [Guidance on citing](#).

To link to this article DOI: <http://dx.doi.org/10.1108/MD-07-2021-0874>

Publisher: Emerald

All outputs in CentAUR are protected by Intellectual Property Rights law, including copyright law. Copyright and IPR is retained by the creators or other copyright holders. Terms and conditions for use of this material are defined in the [End User Agreement](#).

www.reading.ac.uk/centaur

CentAUR

Central Archive at the University of Reading

Reading's research outputs online

**EXPORT INTENSITY OF FOREIGN SUBSIDIARIES
OF MULTINATIONAL ENTERPRISES**

Running head: Export intensity of foreign subsidiaries of MNEs

Quyen T.K. Nguyen (Ph.D.) (Corresponding author)

Henley Business School

International Business and Strategy

University of Reading

Whiteknights Campus, Reading, England RG6 6AH

E-mail: t.k.q.nguyen@henley.ac.uk

EXPORT INTENSITY OF FOREIGN SUBSIDIARIES OF MULTINATIONAL ENTERPRISES

ABSTRACT

We contribute to the theory of the multinational enterprise (MNE) by examining subsidiary-specific capability in financial management, defined as the ability to plan, manage, control, and direct financial resources effectively and efficiently, and the perceptions of subsidiary managers on host country financial development as drivers of export intensity (the share of sales that are exported) of MNE foreign subsidiaries. We theorise that subsidiary-level capability in financial management is conceptually a valuable subsidiary-specific advantage and it is as important as other traditional competitive advantages, such as R&D and marketing intensity. Host country financial development is argued to be largely related to the characteristics of the host country-specific advantages. We provide empirical evidence to support for these arguments using a survey dataset of the foreign subsidiaries of Western MNEs together with other public data sources. Our study broadens the understanding of the relationships between subsidiary-specific advantage in financial management, host country specific advantage, and export intensity of MNE foreign subsidiaries. In this way, we make an original contribution to new internalization theory by emphasizing the internal capability building of subsidiaries. We discuss the implications of our findings for MNE foreign subsidiary managers, and policy makers because exporting is critical to the overall strategy of foreign subsidiaries, and it also contributes to the balance of trade and economic development of host countries where foreign subsidiaries operate.

Key words: subsidiary-specific capability in financial management; perceptions of subsidiary managers on host country financial development conditions; subsidiary export intensity; firm-specific advantages (FSAs) and country-specific advantages (CSAs) theoretical framework; new internalization theory.

EXPORT INTENSITY OF FOREIGN SUBSIDIARIES OF MULTINATIONAL ENTERPRISES

INTRODUCTION

Exporting is instrumental to the overall strategy of foreign subsidiaries of multinational enterprises (MNEs) (Birkinshaw 1996; Estrin et al. 2008; Nguyen and Almodóvar 2018). Some subsidiaries are assigned to export by their parent firms. Others engage in exporting by developing knowledge and capabilities and by utilizing host country-specific advantages (Nguyen and Almodóvar 2018; Nguyen 2021). In this way, they can build necessary commercial infrastructures to support their export activities.

Exporting involves high upfront fixed costs and sunk costs which can be viewed as an investment (Melitz 2003; for a literature review on international trade and finance, see Foley and Manova 2015; Vaubourg 2016). These include conducting research about export markets to gain an understanding of foreign customers and their demands; establishing distribution channels; customising products to meet foreign consumer tastes; complying with product quality and safety legal requirements of export countries (for a literature review on exporting, see Paul and Dhiman 2021; Gupta and Chauhan, 2021). Other variable costs include freight, insurance, documentation required for customs clearance, and duties, etc. It usually takes 30–90 days longer to complete export orders than domestic ones due to transit time for international delivery, leading to longer cash conversion cycle (Djankov et al. 2010; Maes, Dewaelheyns, Fuss and Van Hulle, 2019). Thus, exporting requires external finance, including working capital and liquidity to fund the production and delivery of products, the provision of services, and the lapse of time to wait for payment (Antràs and Foley 2015; Foley and Manova 2015; Manova 2013; Leibovici 2021; Demir and Javorcik, 2020). According to Auboin (2009), up to 90 per cent of world trade has been estimated to rely on some form of trade finance.

Exporting also involves a considerable level of risks. On the one hand, internationalization by exporting is the diversification of risks (Rugman 1976, 1979). On the other hand, internationalization

increases a firm's systematic risks, such as foreign exchange risks and political risks arising from trade barriers, etc. Risks increase the cost of finance and reduce the access to finance (Myers 1984; Low and Chen 2004). Consequently, this may lead to credit constraints which in turn affect international trade (Foley and Manova, 2015; Li, Lan, and Ouyang 2020). However, return on exporting investment is uncertain. Baldwin and Gu (2003) show that export activities generate a positive performance only in the long term.

In this study, we argue that MNE foreign subsidiaries must manage properly their investment, financing, opportunities, and risks associated with exporting. This requires them to have highly disciplined financial management capability, defined as the ability to plan, manage, control, and direct financial resources effectively and efficiently (Nguyen and Rugman 2015; Nguyen and Almodóvar 2018). Yet, there is a gap of research linking subsidiary-specific capability in financial management with export intensity, referring to the share of exports over total sales (Estrin et al. 2008; Nguyen and Almodóvar 2018).

Furthermore, little has been explored the impacts of the perceptions of subsidiary managers of host country's financial development on subsidiary export intensity. Financial development of host country is an important factor of institutional framework (Estrin et al., 2008; Elango and Pangarkar, 2021), because it facilitates the access to financial resources to support exports. We use the definition of the World Bank (2021) on financial development: "financial sector is the set of institutions, instruments, markets, as well as the legal and regulatory framework that permit transactions to be made by extending credit. Financial sector development is about overcoming "costs" incurred in the financial system. The process of reducing the costs of acquiring information, enforcing contracts, and making transactions result in the emergence of financial contracts, markets, and intermediaries. Financial sector development occurs when financial instruments, markets, and intermediates ease the effects of information, enforcement, and transaction costs and do a correspondingly better job at providing the key functions of the financial sector in the economy". One strand of the empirical international economics literature documents that a country's financial development importantly

shapes its trade activity (Foley and Manova 2015; Leibovici 2021). In this study, we focus on the subsidiary managers' perceptions on the access, the availability, and the cost of credit finance in the host countries.

Additionally, there is a scarcity of studies on export intensity of MNE foreign subsidiaries in the extant international business (IB) literature (Estrin et al. 2008; Nguyen and Almodóvar 2018). Previous studies have primarily focused on exports of domestic enterprises and characteristics of these firms (for a literature review, see Chen et al. 2016; Paul and Dhima, 2021). However, the insights from these studies may not be transferable to MNE foreign subsidiaries which are influenced by their parent firms and host country environments (Estrin et al. 2008; Nguyen and Almodóvar 2018). On the other hand, research on parent-level MNEs predominantly focuses on foreign direct investment (FDI), such as factors affecting firms' FDI decision, their choice of location, and organizational structure of global production, etc. (Foley and Manova, 2015); however, little attention has been paid to the international trade activities of parent firms and their foreign subsidiaries. Thus, our understanding of exporting activities of MNE foreign subsidiaries is limited. These are notable research gaps.

This study aims to fill research voids in the literature by analysing export intensity of MNE foreign subsidiaries rather than focusing on the production to meet local demands within the host countries. We investigate two main research questions:

1. To what extent does subsidiary-specific capability in financial management influence export intensity?
2. How do the perceptions of subsidiary managers of host country financial development conditions affect export intensity?

We examine these questions in an effort at enhancing our understanding of the relationship between subsidiary-level internal capability in financial management, host country-level financial development, and export intensity of MNE foreign subsidiaries. From the point of view of subsidiary

managers, gaining a clear understanding of how these two factors drive subsidiary export intensity is particularly important because subsidiaries have already exported, and others expand their export scope. From the point of view of policy makers, understanding how country-level financial development affects exports will yield useful insights, which inform policy making because exports of MNE foreign subsidiaries contribute to the balance of trade of host countries and economic growth. Furthermore, research of this phenomenon is also relevant for academic literature, especially for theoretical development, extension, and confirmation.

We address our research questions by drawing upon the theoretical framework of firm-specific advantages (FSAs) and country-specific advantages (CSAs) (Rugman 1981), and the literatures of international business and international economics to develop our hypotheses. The FSAs/CSAs framework is based on classic internalization theory (Buckley and Casson, 1976, 2020; Rugman, 1981). FSAs are defined as strengths, unique resources, and capabilities of the firm relative to its rivals whereas CSAs refer to strengths of locations (Rugman, 1981). Rugman and Verbeke (1992, 2001) extend classic internalization theory which is subsequently known as “new” internalization theory by emphasizing that FSAs can be developed not only by parent firms but also by foreign subsidiaries. Subsidiaries contribute to knowledge creation and capability building for the MNE network (Rugman and Verbeke 2001; Nguyen and Rugman 2015; Verbeke & Lee, 2021; Magomedova, Achcaoucaou, and Miravittles 2021). This is called subsidiary-specific advantages (SSAs) (Rugman and Verbeke 2001; Nguyen and Rugman 2015; Verbeke and Lee, 2021; for a comprehensive discussion, see Rugman et al. 2011).

We theorize that subsidiaries develop their capability in financial management and use host country financial development to drive their export intensity. We empirically test our hypotheses using a data set collected by a survey with the subsidiary managers of Western MNEs operating in six South East Asian countries. We include in our analysis a full set of comprehensive control variables, namely, country-level factors using public data sources, parent firm-level and subsidiary-level characteristics because research of subsidiary management should be multi-level (Meyer et al., 2020; Nguyen &

Rugman, 2015). The empirical results confirm our hypotheses, in which the relationships are statistically and economically significant. We also address endogeneity concerns.

Our study makes three new contributions to the literature. First, our core theoretical contribution is to add original and novel insights to new internalization theory by conceptualizing and providing empirical evidence that subsidiary-level capability in financial management contributes to their export intensity. In the context of South-East Asian countries, subsidiary management team have insights into underdeveloped financial markets of host countries (excepting Singapore has a developed financial market). They develop highly disciplined financial management capability which helps them overcome challenges and identify opportunities to grow their business through exports. This is a type of subsidiary-specific advantages (SSAs), being developed and embedded in MNE foreign subsidiaries (Rugman and Verbeke, 2001; Nguyen & Rugman, 2015). In this way, we contribute to new internalization theory by showing that subsidiary-specific financial management capability is conceptualized to be a valuable competitive advantage, alongside other traditional FSAs such as R&D and marketing (Nguyen and Rugman 2015; Wei and Nguyen, 2017). We uncover the importance of internal capability in financial management to support export intensity; however, its relevance has been largely neglected in the extant literature. Indeed, much of previous studies on exports focuses on firm characteristics, such as innovation, marketing capability, market orientation, etc. Our study is among the first attempts which advance the understanding of the role of financial management capability in exports of MNE foreign subsidiaries. This is the theoretical novelty of our study.

Second, we develop a parsimonious conceptual model which explains export intensity of MNE foreign subsidiaries. Our study focuses on both subsidiary-level and host country-level finance related factors on export intensity of MNE foreign subsidiaries. In this way, our study extends the literature by responding to the call to bring finance to the emerging research of international trade and multinational activities (Foley and Manova 2015; Vaubourg 2016). Our findings show that subsidiary-level capability in managing financial resources effectively and efficiently and subsidiary

managers' perceptions of host country-level financial development are important variables in explaining subsidiary export intensity. This reflects another original feature of our study.

Third, our estimation model and the nature of our survey dataset for empirical testing provides new insights of subsidiary export intensity. Our empirical results confirm direct relationships. Our subsidiary-level perspective complements previous studies which typically analyse country-level, industry-level, and (domestic) firm-level export behaviour from a macroeconomic perspective (for a literature review, see Sousa et al. 2008; Leonidou et al. 2010; Paul and Dhima, 2021). Research on the exporting of foreign subsidiaries of MNEs as a unit analysis is scarce. Our study broadens the understanding of subsidiary export intensity because exporting is considered to boost the growth not only of subsidiaries but also of host countries. Our theoretical development and new empirical findings provide new insights into the literature of MNE foreign subsidiary exports and offer relevant implications for subsidiary managers and policy makers.

THEORETICAL BACKGROUND

FSAs/ CSAs framework

We develop our theoretical model by drawing upon Rugman (1981)'s FSAs/ CSAs framework. From the perspective of classic internalisation theory (Buckley and Casson 1976, 2020; Rugman 1981), FSAs are defined as unique strengths of a firm relative to rivals. These include product and/or process proprietary assets, typically technological, manufacturing and marketing know-how, organizational capabilities to efficiently internalize and organize assets, coordinate value-added activities across borders, reduce and mitigate foreign risks, and access and manage financial resources. According to Rugman (2010), Rugman and Verbeke (2008), FSAs include a very broad set of unique resources and capabilities which are compatible with the resource-based view of the firm (Barney 1991).

On the other hand, CSAs or locational advantages are defined as strengths specific to a country or a location which can come from its labour work force, geographic location, institutions, government policies, competitive environment, cultural factors, industrial policies, etc. Rugman's FSAs/ CSAs framework is useful in analysing international business strategy and sources of competitiveness. It

can be applied to both the parent firm and the foreign subsidiary (Wei and Nguyen 2017; for a literature review, see Rugman et al. 2011).

Classic internalization theory has been extended in numerous studies, which is subsequently known as new internalization theory (Rugman and Verbeke 1992, 2001; Verbeke and Lee 2021). Rugman and Verbeke (2001) posit that FSAs can be created by both parent firms in home countries and by foreign subsidiaries in host countries. Foreign subsidiaries generate new resources, knowledge, and capabilities in responding to external business environments in which they operate, leading to the development of subsidiary-specific advantage (SSAs).

Theoretical development

Subsidiary-level capability in financial management: a type of subsidiary-specific advantage

Subsidiary-level capability in financial management is defined as the stock of a subsidiary's knowledge and capability to plan, organize, direct, and control financial resources effectively and efficiently. Financial management involves three broad inter-related corporate finance decisions, namely, investment, financing, and dividend. It is important for parent firms to establish planning and controlling authority in financial management with subsidiaries (Rugman and Collinson 2012; Nguyen & Rugman, 2015; Breuer and de Vargas, 2021; Eiteman, Stonehill and Mofett, 2021). According to Ross (2004), investment and financing decisions involve the valuation of uncertain future cash flows. In the international business contexts, these decisions are affected by exchange rate risks. Therefore, the methodology used to support rational decision making in MNEs must capture the additional complexity that exchange rate risks and exchange rate forecasting pose (Rugman and Collinson 2012; Breuer and de Vargas, 2021).

Investment includes investment in fixed assets (called capital budgeting) and in current assets (called working capital). Specifically, at the subsidiary level, investment decision involves identifying investment opportunities for business expansion and growth, namely, building new manufacturing plant or expanding the existing plant or acquiring an existing firm; buying new machineries and

equipment; investing and holding intangible assets; engaging in business development, such as exporting, and introducing new products and services (Nguyen and Rugman 2015; Nguyen 2021).

Financing involves raising finance from various sources. These include initial capital investment from parent firms; share issuance (in the case of publicly listed subsidiaries); loans from banks and financial institutions; intra-firm loans/ internal debt from parent firms and or other sister subsidiaries through the access of internal capital markets (Rugman 1980; Mudambi 1999; Aulak and Mudambi 2005; Nguyen and Rugman, 2015; Duanmu, Norbaeck, Lu and Clegg 2021). In business reality, corporate treasury often acts as an in-house bank to provide internal borrowing (Rugman 1980; Nguyen and Almodóvar 2018).

Dividend involves the distribution of net profits. This includes dividend payment to parent firms (the dividend and the rate) and retained earnings for subsidiaries, depending upon the plan of expansion, innovation, and diversification of parent firms and foreign subsidiaries.

Financial management is particularly more complex for MNE foreign subsidiaries due to the dual requirements of global integration to comply with parent firms' corporate finance policies to ensure efficiency and profitability and the local responsiveness to comply with host country laws and regulations. Therefore, subsidiary-level financial management requires highly disciplined skills in the routines of budgeting, forecasting, financial planning and analysis, financial accounting and reporting, management accounting, risk management, including tax planning.

Subsidiary-level capability in financial management can be viewed as a type of transaction-based FSAs (Dunning 1988) because it is related to the capability of leveraging the access to financial resources across border and deploying them to support business activities, including exports. Like other transaction-based FSAs, it is derived from the multinationality and accumulated international experience (Eden and Dai 2010; Wei and Nguyen 2019). As such, we argue that it is an important competitive advantage and a critical determinant of subsidiary export intensity.

In the context of South East Asian countries, financial institutions are relatively weak, except in Singapore with a developed financial market. External financing opportunities are limited, leading to high cost of financing (Desai et al. 2004; Nguyen and Rugman 2015) whereas these markets offer high potential and growth opportunities. We argue that compared to parent firms, subsidiaries have knowledge about the conditions of local financial markets, and they manage to find suitable solutions to finance their operations and promising investment opportunities (Nguyen and Rugman 2015; Nguyen and Almodóvar 2018). Subsidiaries have developed unique capability in financial management to overcome financing constraints and manage to exploit business opportunities, including exports. This is a type of subsidiary-specific advantages (SSAs) (Rugman and Verbeke 2001; Nguyen & Rugman, 2015).

Perceptions of subsidiary managers on host country financial development: Host country CSAs

Financial development is an important dimension of host country CSAs. In this study, financial development refers to the access, the availability, and the cost of credit finance “through the eyes of subsidiary managers”. To a certain extent, host country-level financial development reflects inclusive finance which is defined as universal access to a wide range of formal financial services at reasonable costs (Nizam, Karim, Sarmidi and Rahman 2021; Leibovici 2021; Demir and Javorcik 2020). Financial development is a formal institution, which shapes behaviour, the sustainability of competitive advantages and ultimately the performance of all firms, including MNE foreign subsidiaries (North 1990).

The international economics literature shows that the access to financial capital can affect international trade flows, such as entry into exporting and exporters’ trade performance (Leibovici 2021; Demir and Javorcik 2020; for a review, see Foley and Manova 2015; Vaubourg 2016). The impacts of credit constraints on trade activity can vary differently across sectors, depending on their financial vulnerability (Foley and Manova 2015; Li et al. 2020). The mechanisms generating these distortions hinge on the nature of the underlying financial frictions. Due to information asymmetries

between lenders and borrowers, external financing entails adverse selection and moral hazard owing to endogenous default, and imperfect contract enforcement due to weak institutions (legal and regulatory frameworks and tax systems). Firms would face inflated interest rates or be credit rationed. For example, Cheng, Tan & Yu (2021) find that credit rationing affects firm exports. These different mechanisms share the same implications for observable trade outcomes (Foley and Manova 2015; Vaubourg 2016).

When financial systems are well-developed, credit finance will be available to all firms. Additionally, strong formal institutions, such as creditor rights' protection, and disclosure requirements of accounting and financial reporting will reduce information asymmetries between borrowers and lenders. In a well-functioning and well-developed financial market, moral hazard and adverse selection problems are substantially reduced, leading to lower search costs for financing (Kroszner et al., 2007; Foley and Manova 2015).

If credit finance is available at affordable cost, firms will have necessary financial resources to start-up and grow business, develop products and services, engage in innovation activities, and enter new foreign markets besides selling in domestic markets (Levine 1997; Giebel and Kraft 2020). Chacar et al. (2010) argue that the development of financial systems affects the number of firms in a sector and their resource levels. Didier, Levine, Montanes and Schmukler (2021) examine whether there is a relationship between finance and growth at the firm level. They find that financial resources are important for firms to enhance their productive capabilities, increasing their tangible and intangible capital, and the number of employees.

On the one hand, the intensity of competition to access credit finance will vary, depending upon the availability of credit within a country, via financial intermediaries such as banks, etc. These financial institutions will screen, select, and extend credit to the most promising investment projects (Greenwood and Javanovic 1990; Chacar et al., 2010). Consequently, competition will become more

intensified among existing firms and prompts the entry of new firms, forcing all firms to be more efficient to survive and thrive in such environments.

In contrast, when financial markets are underdeveloped and credit markets are shallow, the access to credit may be constrained. The credit availability may be limited in countries with weak creditor rights' protection, leading higher interest rates and higher price of loanable funds (Nguyen and Rugman 2015; Noe 2000). Capital allocation may be made haphazardly and given to the most visible or politically connected firms due to inefficiency and weak regulatory integrity of financial systems (Greenwood and Javanovic 1990; Chacar et al., 2010). In this way, there will be no clear impact on firms' efficiency.

On the other hand, financial markets also provide corporate control, such as disciplining non-performing firms by putting pressures on the top management team (Fama 1980; Chacar et al., 2010). Balachandra and Williams (2018) discuss various monitoring mechanisms, including independent directors, institutional investors, market for corporate control, and their effects on value creation. They further explore the connection between the role of financial institutions as delegated monitors and the associated issues of bank governance, bank capital, and systemic risk. Specifically, financial intermediaries monitor firm managers by putting pressure on the latter to deliver performance (Stiglitz and Weiss 1983; Myers and Majluf 1984), and by acting as a disciplinary device. Well-developed financial markets reduce information asymmetries and provide incentives for firms to undertake risky yet high return investment projects (Aghion et al. 1999). Financial development also reduces the investment-cash flow sensitivity (Gupta and Mahakud 2019).

In summary, we investigate the direct relationships between subsidiary-level capability in financial management, the perceptions of subsidiary managers on host country financial development conditions and subsidiary export intensity. Figure 1 presents a conceptual model.

Figure 1

HYPOTHESES DEVELOPMENT

Subsidiary-level capability in financial management and export intensity

We build upon the international business literature on the role of financial expertise and firm performance, and the international economics literature at the intersection of international trade, finance, and multinational activities for our theoretical development. We focus on the capability of subsidiary in financial management, namely financing and investment decisions after subsidiaries take into consideration dividend payment to parent firms and retaining earnings to finance operations of subsidiaries.

Rugman (1980) is the first scholar who draws upon internalization theory to explain various phenomenon of MNEs' corporate finance and emphasizes the role of internal capital markets in the context of MNEs. MNEs are unique relative to indigenous firms with operations in a single country in the sense that MNEs can access external financing from various international financial markets and deploy the funding elsewhere within the MNE network (Desai et al., 2004; Nguyen & Rugman, 2015). They develop internal capital markets in their organizational structure to overcome country-level external capital market imperfections. In practice, MNEs' global or regional corporate treasuries often act as in-house banks (internal capital markets) and provide internal financing sources and corporate financial services to their operating subsidiaries. The ability of MNEs to tap various sources of finance and the vibrance of internal capital markets may therefore provide MNEs a competitive advantage relative to indigenous firms. Desai et al. (2004) and Noe (200) show that MNEs exploit their internal capital markets in response to cross-country differences in the availability and the cost of capital and corporate income tax rates. This highlights the underlying capability in financial management of MNEs.

However, there is a scarcity of empirical research on financial management capability or financial expertise at the subsidiary level in the extant international business literature. Prior research examines the relationship between financial expertise and firm performance. Among few studies, Kim et al. (2009) investigates the relationship between market valuation of MNEs and intangibles associated

with financial expertise. They identify firms as having financial expertise if they have diversified their business in the financial sector. They argue that financial expertise enhances the ability of MNEs to internalize financial transactions and take advantage of financing and investment opportunities around the world. Therefore, it is a potentially significant source of market power. The test results show that as the degree of multinationality increases market valuation is positively related with financial expertise even after they account for several other control factors. The findings imply MNEs with financial expertise can be viewed as possessing an additional intangible, which essentially is equivalent to the traditionally examined intangible assets, such as technological know-how, goodwill, and managerial expertise.

Nguyen and Rugman (2015) examine the relationship between subsidiary-level financial management capability and subsidiary performance and provide direct empirical evidence to confirm a positive relationship. Furthermore, they also find that subsidiary-level capability in managing financial resources, such as deploying and using effectively subsidiary-level retained earnings – a type of internal equity finance to fund continuing expansion and growth, is conceptually as important as other traditional FSAs in R&D and marketing. Capability in financial management is important to successful operations for MNE foreign subsidiaries to overcome challenging institutional environments in emerging markets.

We attempt to extend the literature by examining the link between subsidiary-level capability in financial management and export intensity. Specifically, engaging in exports involves financing decision because exporting requires routine access to financial capital. Financing includes the access to financial sources, namely, intra-firm loans and external loans which are instrumental in financing exports (Nguyen and Rugman 2015; Nguyen and Almodovar 2018). Exporting entails investment decision on how to fund fixed costs and variable costs to support exports (Melitz 2003; Foley and Manova 2015).

The international economics literature on the intersection of finance and international trade shows a correlation between financial constraints and firms' ability to enter and remain sustainable in export markets (Amiti and Weinstein 2011; Askenazy et al. 2011; Bellone et al. 2010; Berman and Hericourt 2010; Greenaway et al. 2007; Minetti and Zhu 2011; Manova 2013; Pietrovito and Pozzolo, 2019; Padmaja and Sasidharan, 2020). According to theoretical models with financial frictions, access to external credit and liquidity are instrumental to pay for sunk costs of exporting (Melitz 2003; Manova 2013; Manova et al. 2015; Chaney 2016). Melitz (2003) develops a model of international trade, in which entering export market incurs major upfront costs which can be viewed as an investment decision. Financial constraints can be seen as a key determinant of a firm's export behaviour (Bellone et al. 2010; Manova 2013; Muul 2015). Manova et al. (2015) find that financial frictions restrict firms becoming exporters and constrain export sales, product scope, number of destinations and sales within each destination-product market.

When subsidiaries participate in exporting, they must consider offering suitable contract payments, namely, cash in advance, open account, and letter of credit after careful evaluation of the credit worthiness of customers and export market conditions (Auboin 2009). There is a lapse of time between the delivery of goods and the payment. Enforcement problems and default payment risks are more substantial in exports because foreign partners are more difficult to monitor (Foley and Manova, 2015; Vaubourg 2016). Bank which provides intermediated trade finance, i.e., letter of credit is an important instrument in international trade (Elligsen and Vlachos 2011; Amiti and Weinstein 2011; Schmidt-Eisenlohr 2013; Hoefele et al., 2014; Demir and Javorcik, 2020).

Building upon the extant literature, we argue that while finance determines exports, the capability to manage financial resources, working capital, and liquidity effectively and efficiently is instrumental to subsidiary export intensity. We propose a hypothesis:

Hypothesis 1: Subsidiary-level capability in financial management is positively related to subsidiary export intensity.

The perceptions of subsidiary managers of host country financial development and subsidiary export intensity

We focus on the perceptions of subsidiary managers on financial development of host countries. This corresponds to the emphasis on cross-national differences in the development of financial intermediaries (Williamson 1991; Desai et al. 2004). The international economics literature shows that international trade is driven by country-level financial development (Beck 2003; Svalery and Vlachos 2002; Becker et al. 2013; Manova 2008; Kumarasamy and Singh 2016; Leibovici 2021). Prior research finds that the demand for a well-developed financial sector is higher in countries with industrial structures which heavily rely on external finance (Huang and Temple 2005; Baltagi et al. 2008; Do and Levchenko 2007).

Kletzer and Bardhan (1987) argue that financial development could lead to a comparative advantage in industries which rely on external finance and that it could explain the variance in trade structures across countries. According to Baldwin (1989), the country with a financially developed market can diversify risk and thus specializes in producing risky goods with relatively lower risk premiums. Beck (2003) examines the relationship between financial development and international trade. He finds that countries with better developed financial systems have higher export share and trade balances in manufactured goods. Financial development helps firms reduce liquidity and credit constraints which spur investments and allow firms with productivity above certain level to engage in exporting (Melitz 2003). Becker et al. (2013) examine annual bilateral trade flows among a sample of more than 170 countries between 1970 and 1998. They find that financial development (proxied by the quality of accounting) fosters exports and this effect is more significant when upfront costs are high. Jiang, Khan, Zaman, and Iqbal (2020) report that the impact of financial development on international trade is context specific. Specifically, they find that financial development has a positive impact on trade in services in Central and South America but does not have a significant impact in Asia and Africa.

These findings show that exports strongly depend on policies which have been implemented to develop and modernize financial systems (Foley & Manova, 2015; Vaubourg 2016). Manova (2010) argues that policies aiming to attract foreign financial flows (portfolio and direct investments) also mitigate financial constraints and enhance export performance. Manova (2013) analyses the mechanisms through which financial market imperfections disrupt aggregate trade. The role of financial development is identified separately from that of overall economic and institutional development through interactions of the exporter's GDP per capita, corruption, and rule of law with sectors' financial vulnerability. Manova (2013) shows that financially advanced economies serve more destination markets and export more products, especially in financially more vulnerable sectors.

In the case of MNE foreign subsidiaries, they have competitive advantages over indigenous firms due to the nature of multinationality, geographic reach, and large size of their parent firms which allow them to access location advantages of multiple countries (Hymer 1976; Dunning 1993, for a literature review on the relationship between multinationality and performance, see Nguyen 2017; Nguyen and Kim 2020). They have access to internal financing sources from internal capital markets and external financing from financial institutions in host countries. In this way, they can fund investments to expand business internationally through exports.

Host country financial development enables MNE subsidiaries to access local financial resources which can be used to facilitate their exporting activities (Miravittles et al. 2018; Nguyen & Rugman, 2015). In this way, MNE subsidiaries can build financial resource base to support exports, alongside with other unique resources and knowledge-based capabilities, including technologies, and organizing principles (Spender 1996; Teece 1998; Verbeke and Lee, 2021). Building upon the extant theoretical and empirical literature, we predict:

Hypothesis 2: The perceptions of subsidiary managers on host country financial development are positively related to subsidiary export intensity.

METHODOLOGY

Research context, data collection, and sample

The research context of our study is South-East Asian countries. This geographic region has actively integrated into the world economy and contributes to world trade and foreign direct investment (FDI). Furthermore, these countries have long implemented friendly FDI policies to attract Western MNEs to set up foreign subsidiaries, which engage in a wide range of business activities and are sophisticated in both scope and scale. From an international business perspective, the dynamic business environments of these host countries offer a rich research context for an empirical test of the role of subsidiary-level capability in financial management and systematic analysis of the subsidiary-level export intensity.

We use multiple data sources to manually construct our dataset of foreign subsidiaries of Western MNEs with operations in South-East Asian countries. First, we consult Global Business Browser by Dun and Bradstreet (D&B), which is one of the leading financial intelligence service providers in the world. We gather basic information of these subsidiaries, such as name, address, year of incorporation, sector, business description, and parent firms. Because all of them are private subsidiaries, they are not required to disclose financial information to the public and thus there is no financial data available in the database. We use the survey method to collect information. Second, we visit the parent firms' websites and read their annual reports, especially the exhibits of foreign subsidiaries to identify subsidiaries in South-East Asian countries. Third, we search for subsidiaries of Western MNEs from the websites of British, American, and European Chamber of Commerce in the host countries. Finally, we also use other online local directories to look for MNE subsidiaries. A few of them are in Cambodia, Laos, and Brunei Darussalam. We focus our time and efforts to identify subsidiaries in six countries of Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. We compile a total population of 1,350 subsidiaries operating in these six countries and their parent firms are headquartered in North America and Europe.

We develop our survey with a specific focus on the South-East Asian research context. Our questions are based on the literatures of international business, international accounting, and international financial management. We use English language for our questionnaire instrument because English is an official business language for all these subsidiaries. We pilot test the survey with five experienced subsidiary managers, which help us ensure that the wording is easy-to-understand and the questions are relevant.

We spend 13 months between March 2017 and March 2018 to collect data. We send personalized e-mails to the top management team of the target subsidiaries. We receive a total of 135 returned questionnaires. The response rate of our final sample is consistent with the norm of data collection by the survey method in South-East Asian countries because the response rate is very low in this geographic area (Harzing 2000). The literature on subsidiary management documents that survey is a time-consuming and challenging process due to an extreme low response rate and reluctance to provide information from subsidiaries, especially in the South-East Asian research context (Nguyen and Almodovar 2018; Nguyen and Rugman 2015; Wei and Nguyen 2017, 2019).

Our survey receives responses from both manufacturing and service subsidiaries. Subsidiaries in the manufacturing sector account for 46 per cent, including those in energy, petroleum, and refining. Subsidiaries in the service sector account for 54 per cent. Both expatriates and host country managers respond the questionnaires.

Non-response rate

We perform an independent two-tailed t-test by comparing parent firms' characteristics (sales, assets, employees, data as at 2016) of responding and non-responding subsidiaries. The test results show that these two groups have similar distribution patterns, at a five per cent significant level.

We conduct two rounds of invitations and five rounds of friendly reminders to obtain adequate sample size. We compare the characteristics of early responses (responses after the two rounds of invitations)

and late responses (responses after the last two rounds of reminders). We find that there are no significant differences between these two groups. These tests confirm that there is no-response bias in the final sample.

Common method variance

We follow the suggestions by Chang et al. (2010) and Podsakoff et al. (2003) to mitigate any potential risks of common method variance because the dependent and independent variables come from the questionnaire survey. In the ex-ante procedure, we use multi-item constructs and different scale types (including 7-point Likert scale and 5-point Likert scale) to minimize potential consistency (Chang et al. 2010; Podsakoff et al. 2003). We ask for information of past years' average exports (2012-2016) and thus force respondents to think of different time periods.

We run Hartman's one-factor test as a post-hoc statistical procedure. Furthermore, in our empirical analysis, we include control variables from public data sources which reduce the likelihood of common method variance. We also adopt the triangulation method by comparing information provided by subsidiary managers on the year of subsidiary establishment to calculate the age of the subsidiary at the time of survey with the information provided by D&B Global Business Browser database. We conduct all ex-ante and ex-post procedures, which confirm that common method variance is not a major problem in our dataset.

Variables and measurements

Dependent variable

Subsidiary export intensity: We follow previous studies using the ratio of export sales over total sales to measure export intensity (Almodóvar and Rugman 2014, 2015; Estrin et al. 2008; Salomon and Shaver 2005). We build upon international accounting standards (IFRS8 – Operating segment and IAS24 – Related party disclosures) to design this question, in which we ask the managers of participating subsidiaries to report the approximate percentage of the aggregate value of export sales

over the aggregate value of total sales of their subsidiaries during the period of 2012-2016. We use an average ratio to neutralise variance over time (Grant et al. 1988).

Independent variables

Subsidiary-level capability in financial management We adapt Nguyen and Rugman (2015)'s summated rating scale. We ask subsidiary managers to self-assess their subsidiary-level capability in financial management on a seven-point Likert scale with 1=very weak and 7=very strong. The financial management capabilities include (a) investment, i.e., identify investment opportunities in products, services, markets, expansion, and growth; (b) financing, i.e., access necessary financial resources and arrange appropriate financing to fund promising investment opportunities; (c) dividend, i.e., consider the need to balance between dividend payments to the parent firm and retained earnings and reinvestment for the subsidiary. The Cronbach alpha test for scale reliability based on standardized items is 0.71. We use the average of the summated rating scale.

Host country financial development We ask subsidiary managers to assess a range of variables of host country location factors. In this study, we focus on host country financial development, namely, (i) the access; (ii) the availability; and (iii) the cost of credit finance using a seven-point Likert scale with 1=very low and 7=very high (Kletzer and Bardhan 1987; Beck 2003). The Cronbach alpha test for scale reliability based on standardized items is 0.94. We use the average of the summated rating scale.

Control variables

We include a set of control variables on subsidiary characteristics, parent firm characteristics, host country institutions, and sectors.

Subsidiary size We control for subsidiary size (Nguyen & Rugman, 2015; Slangen and Hennart 2008). It is measured by the number of employees, using the interval data 1= Below 100 employees; 2=100 up to less than 500 employees; 3= 500 up to less than 1,000 employees; 4=1,000 up to less

than 1,500 employees; 5=1,500 up to less than 2,000 employees; 6=2,000 up to less than 5,000; 7=5,000 or more employees.

Subsidiary invested capital: Subsidiary managers are asked to report the invested capital, which is transformed into logarithm (log).

Subsidiary age It is measured by the number of years in operations since the incorporation date. It is an indirect indicator of subsidiary accumulated experience and knowledge of host countries (Nguyen and Almodóvar 2018; Autio et al. 2000). We triangulate the information provided by subsidiary managers with the information from the D&B Global Business Browser. We transform subsidiary age into logarithm (log).

Subsidiary autonomy It is defined as the decision-making authority of the subsidiary without interference from the parent firm (McDonal et al. 2008; for a literature review, see Cavanagh et al. 2017). We follow previous studies to use a summated rating scale. We ask subsidiary managers to self-assess the degree of subsidiary autonomy using a five-point Likert scale with 1=decisions exclusively made by the HQs; 2=decisions largely made by the HQs; 3=shared decision between the HQs and subsidiary; 4=decisions largely made by the subsidiary; 5=decisions exclusively made by the subsidiary (Birkinshaw and Hood 1998; Roth and Morrison 1992; Slangen and Hennart 2008). Subsidiary managers self-assess the degree of freedom to make decisions in (i) research and development (R&D) (if the subsidiary is assigned this role); (ii) manufacturing, production and/or service provision, and supply chains (e.g. selection of key suppliers, sourcing, production, or service delivery); (iii) sales, marketing, and distribution (e.g. product/ service offerings, advertising, promotion, brands, customer relationship management, distribution channels, and business development); (iv) human resources management (e.g. selection, recruitment, remuneration, training and development of employees); (v) accounting, financial management, and taxation; host country government relationship management. The Cronbach alpha test for scale reliability based on standardized items is 0.50. According to Perry et al. (2004), the reliability is moderate but acceptable.

Parent firm size Parent firm size can affect the exports of foreign subsidiaries (Nguyen and Almodóvar 2018; Ma et al., 2012). Parent firm size is measured by the logarithm (log) of the number of employees of parent firm.

Host country's GDP per capita: This variable (expressed in US\$1,000) measures consumers' purchasing power in host countries (Gripsrud and Benito, 2005). Subsidiaries with large domestic markets are likely to focus on domestic sales rather than exports. We use the World Bank's Development Indicators database to extract data of GDP per capital for six host countries (World Bank, 2012-2016).

Host country domestic credit over GDP This variable has been frequently used to measure private credit (Kroszner et al., 1998), suggesting the availability of financial credit upon which subsidiaries can borrow (if they can access) to support their business and improve performance. The data come from the World Bank's Development Indicators database (World Bank, 2012-2016).

Sectors Sectors may have different impact on subsidiary performance. They are broadly categorized as manufacturing and service sectors, using a dummy variable 1=manufacturing and 0=service.

Table 1 reports the structure of our sample by host country locations of subsidiaries and the sectors (manufacturing or service) in which they operate.

Table 1

RESULTS

Descriptive statistics and correlation

Table 2 provides descriptive statistics and correlation matrix for all individual variables. As reported in the table, there is a sufficient variance of independent variables and a low correlation of the zero-order correlation matrix. Hair et al. (2010) suggest that the correlation should be below the cut off threshold of 0.50. We carefully examine data in terms of linearity, equality of variance, and normality.

There is no serious deviation. We examine the tolerance for individual variables in the model which exceed the value of 0.7. The variance inflation factor (VIF) values for all individual variables in the model do not exceed the value of 2. They are below the commonly specified cut off value of 10 (Hair et al., 2010). All these results confirm that multicollinearity is not a problem of our dataset.

Table 2

Hypotheses testing

We test our hypotheses using ordinary least square (OLS) statistical techniques and report the results in Table 3. We include all control variables in Model 1. We include independent variables in Model 2. Model 3 is a full model, upon which we discuss the test results.

Hypothesis 1, which predicts that subsidiary-level capability in financial management is positively related to subsidiary export intensity, is fully supported ($\beta = 13.70$; $p\text{-value} < 0.01$). The regression result confirms that for every 1% increase in subsidiary-level capability in financial management (holding all other variables constant), export intensity increases on average by 13.70%, respectively. The relationship is statistically significant, and the sign is positive. Our finding shows that subsidiary-level capability in financial management is an important subsidiary-specific advantage, which helps subsidiaries manage financial resources effectively and efficiently, and contributes to subsidiary export intensity. Our finding is consistent with Nguyen & Rugman (2015) which examine the relationship of subsidiary-level financial management capability and subsidiary performance.

Hypothesis 2, which predicts a positive relationship between the perceptions of subsidiary managers on host country financial development and subsidiary export intensity, is also fully supported ($\beta = 3.86$; $p\text{-value} < 0.001$). The relationship is statistically significant, and the sign is positive. The regression result confirms that for every 1% increase in host country financial development (holding all other variables constant), export intensity will increase on average by 3.86%, respectively. Our finding is aligned with previous studies in the international economics literature which use country-level data from public sources (Kumarasamy and Singh 2016; Leibovici 2021).

Interestingly, we find that the explanatory power of the coefficient of subsidiary-level capability in financial management is stronger than host-country level financial development conditions from the perceptions of subsidiary managers. The results suggest that the development and augmentation of the internal capability is critical because the subsidiary can directly influence it whereas country-level financial development condition is an external factor which is outside the direct control of subsidiaries. Among control variables, age is statistically significant, but the sign is negative. GDP per capita is also significant and the sign is positive. Other variables are insignificant.

Table 3

Endogeneity test

We follow the recommendations of Reeb et al. (2012) and Wooldridge (2009) to deal with endogeneity concerns. Specifically, we adopt a theory-driven and managerial approach for our theoretical development, our design of the survey instrument, and the rationale for the behaviour of the dependent variable. We also obtain insights from subsidiary managers, with whom we interact during the data collection process. In this way, we gain a better understanding about the nature of causality. We build upon the insights of subsidiary managers to develop our econometric analysis, which aligns with the “insider research” approach (Ichniowski and Shaw 2009). Collection of rich subsidiary-level data using the survey method helps us identify mechanisms which explain how the treatment affects subsidiary export behaviour.

We use an instrumental variable (IV) approach, which must satisfy the conditions of relevance and exogeneity (Reeb et al. 2012; Wooldridge 2009). We analyse our dataset and find that subsidiary-level capability in financial management and the perception of subsidiary managers on host country skilled labour are exogenous. We ask subsidiary managers to assess multi-dimensional aspects of host country locations. With regards to host country skilled labour, we focus on (i) the availability (the quantity); (ii) the quality, and (iii) the cost of skilled labour, using a seven-point Likert scale 1=very

low and 7=very high. The Cronbach alpha test for scale reliability based on standardized items is 0.98. We use the summated rating scale of host skilled labour.

We run two stage least square (2SLS) regression tests to address endogeneity. We estimate subsidiary-level capability in financial management in the first stage and use this predicted value to estimate subsidiary export intensity in the second stage. In the first stage, we perform the OLS regressions for the independent variable of subsidiary-level capability in financial management and the instrumental variable of host country skilled labour. We save the predicted values accordingly. We report the instrumental variable in the descriptive statistics and correlation table (Table 2) and in Model 4-5 (Table 4). The new variable in the first stage is statistically significant ($\beta=13.92$; $p\text{-value}<0.05$) and the sign is positive. The result of the first stage regression confirms that subsidiary-level financial management capability is positively related to host country skilled labour and therefore suggests the acceptability of the instrumental variable. It has been saved as subsidiary-level capability in financial management (predicted value). In the second stage, we regress subsidiary export intensity using the new predicted value variable. We include control variables and report the results in full models – Models 4-5 (Table 4). The second stage regression shows that the predicted value variable is statistically significant, and the sign is positive. Overall, the results of the 2SLS regressions (Table 4) are consistent with those of the OLS regression results (Table 3), showing full support for hypotheses 1 and 2. Because our study uses one instrumental variable for one independent variable, it does not suffer from over-identifying restrictions. This approach makes our models just have enough instrumental variables and is called just identified (Wooldridge 2009). We find that among control variables, age, and GDP per capital are statistically significant. Other control variables are not statistically related to subsidiary export intensity.

Table 4

Robustness tests

We conduct additional tests to check the robustness of our results. This allows us to exclude alternative explanations. First, we replace the survey data of host country financial development with an alternative measurement which is compiled from a secondary data source. We follow Chacar et al. (2010) to use the country-level score of financial development on a 10-point Likert scale reported annually by the World Competitiveness Report (WCR) published by IMD, Geneva, Switzerland (IMD, 2012-2016). We use the average data for the period 2012-2016 for six South- East Asia host countries. These scores are computed from an annual survey of senior and middle managers from a cross-section of domestic and foreign firms operating in each country. The survey consists of Likert-type items, where the respondents evaluate their respective country's institutional context. The WCR single item asked respondents about the access to financing of a country only.

Second, we include more control variables. These include a dummy variable for the subsidiary ownership (wholly owned foreign subsidiary versus joint venture), entry mode (greenfield versus acquisition), relatedness to parent firm activities (Slangen and Hennart 2018), and host country economic freedom of the world index by the Fraser Institute, Canada, and a dummy variable for the region of origin of the parent firms (North America versus Europe).

We find that secondary data of host country financial development is statistically significant, and the sign is positive. While the secondary data supports our finding, the result using survey data shows a stronger explanatory power in our model and thus provides a stronger support for our hypothesis. However, none of additional control variables are statistically significant. Due to space constraints, we do not report the results here. Overall, the unreported results for our hypotheses 1, 2 are consistent with our findings reported in Table 3.

We also run an interaction term between two explanatory variables. The result is not statistically significant, and it is not reported here due to space constraints. The result suggests that the explanatory variables have direct impacts on subsidiary export intensity rather than a synergistic impact.

DISCUSSION

Contributions to theoretical and empirical literature

We build upon the FSAs/ CSAs framework to examine the impacts of subsidiary-level capability in financial management and the perceptions of subsidiary managers of host country financial development on subsidiary export intensity. We use a survey dataset of foreign subsidiaries of Western MNEs operating in six South East Asian countries and other public data sources to test our hypotheses. The empirical results confirm our prediction. Our study highlights the roles of subsidiary-level and host country-level finance related variables, which drive the export intensity of MNE foreign subsidiaries. In this way, our study provides novel contributions to the theoretical and empirical literature.

First, we make an original contribution to new internalization theory (Rugman and Verbeke 1992; 2001; Nguyen and Rugman 2015) by conceptualizing subsidiary-level capability in financial management as a subsidiary-specific advantage (SSA). Specifically, we theorize and provide new empirical evidence on the important role of subsidiary-level capability in financial management in determining export intensity. We show that the unique capability in financial management helps subsidiaries plan, manage, control, and direct resources effectively and efficiently and to internalize financial transactions and take advantage of financing and investment opportunities. In this way, our study adds new theoretical insights because prior research on subsidiary management has largely focused on FSAs in R&D and marketing transferred from the parent firms to foreign subsidiaries as determinants of subsidiary exports. To a certain extent, this assumption has inherent limitations because it overestimates the international transferability of parent-firms' FSAs and underestimates challenges in exploiting and deploying them due to differences between home countries where FSAs are developed and host countries where FSAs are utilized (Rugman et al., 2011; Verbeke & Lee, 2021). This research stream has not fully considered the capability building of subsidiaries. As such, our study discovers the importance of subsidiary-level capability in financial management which the extant literature has largely neglected. This is a novel theoretical contribution. Our perspective is consistent with Rugman and Verbeke (1992, 2001) emphasizing that FSAs transferred from parent

firms need to be complemented by additional knowledge, resources, and capabilities developed by foreign subsidiaries in host countries.

Second, our study examines the extent to which the perceptions of subsidiary managers on host country financial development (a type of host country CSAs) affects subsidiary export intensity. Our new empirical result confirms the critical role of this country-level variable “through the eyes of subsidiary managers”. This is another new contribution of our study using survey data. From the lens of theory, our multi-item scale for the perceived host country financial development corresponds to parameters relating to subsidiaries’ perceptions of access of external finance. In addition, we also consider the availability and the cost of credit finance in our survey. The finding of our study complements the extant literature which tends to use country-level data from public sources for empirical testing (Beck 2003; Manova 2013). A common proxy for the degree of financial development is the amount of external capital available to firms. Access to debt is frequently measured by private credit, and the total credit extended to the private sector by banks and other financial intermediaries as a share of GDP. Other alternative measures include the regulatory and legal framework pertinent to financial markets (Foley and Manova 2015; Braun and Raddatz 2008; Do and Levchenko 2007). For example, Manova (2013) regresses bilateral exports by sector on the interaction of financial development in the exporting country with sectors’ external finance dependence and asset tangibility.

Third, our study makes new contribution to the emerging literature which examines international business, finance, and international trade (Foley and Manova 2015; Vaubourg 2016). Our findings on the role of subsidiary-level capability and host-country factor and export intensity of MNE subsidiaries enhance our understanding of MNE subsidiaries and the growth strategy through exporting and international diversification (Estrin et al. 2008; Nguyen and Almodóvar 2018). Interestingly, the coefficient of subsidiary-level capability in financial management is higher than that of perceived host country-level financial development conditions. This finding suggests that planning, managing, directing, and controlling resources effectively and efficiently is particularly

instrumental to subsidiaries' export strategies and affects their export intensity. This study enriches the extant literature which predominantly examine country-level, industry-level, and (domestic) firm-level export behaviour from a macroeconomic perspective rather than from a managerial perspective of the subsidiary.

Limitations and suggestions for future research

Our study has several limitations which future research could address. First, the novelty of our study is that we use a survey dataset of subsidiaries of large Western MNEs operating in six South-East Asian countries, which have been largely under explored in the extant literature. However, there is a high variance across these host countries which might affect the development of subsidiary-level capability, the perception of subsidiary managers on financial development conditions, and export intensity. The findings of our study may be restricted to this research setting only. Future research may replicate our study in other research contexts, such as North America, and Europe to enhance the generalizability of our findings.

Second, while there are many measurements of the host country financial developments, this study focuses on the perceptions of the subsidiary managers. We also use alternative measurement from the public data source. Future research may focus on other aspects of host country formal institutions, such as economic freedom, trade liberalization, and membership of regional trading blocks and their impacts on subsidiary-level export intensity.

Third, our study uses a unique survey-based dataset focusing on subsidiary-level and host country-level explanatory variables. Future research may consider conducting qualitative research with in-depth interviews of subsidiary managers to gain their insights, although gaining access to subsidiaries has been documented to be challenging, especially in emerging economies. Alternatively, future research might undertake a follow-up study to examine whether the relationships here have changed over time (Estrin et al., 2008).

Finally, foreign subsidiaries whose parent firms from different countries of origin may pursue different export strategies. The characteristics and strategies of parent firms may enrich the analysis of subsidiary-level exports. Future research may compare the determinants of subsidiary export intensity of Western MNEs and emerging market MNEs.

CONCLUSIONS

Exporting provides opportunities for MNE foreign subsidiaries to expand their business to international markets beyond servicing domestic markets. Exporting requires substantial investment, additional financial resources, working capital, and liquidity. Exporting involves high risks; however, the return on exporting is uncertain. This requires exporting subsidiaries take into consideration their internal capability in financial management, i.e., the ability to plan, manage, direct, and control their financial resources effectively and efficiently as well as host country degree of financial development from the perceptions of subsidiary managers. However, to date, little effort has been devoted to examining the impacts of these subsidiary-level and host country-level factors on subsidiary export intensity.

Our study is among the first few attempts to bring the insights of financial management to the research of exports and MNE foreign subsidiary activities. We find that subsidiary-level capability in financial management is an important subsidiary-specific advantage which contributes to subsidiary export intensity. Additionally, the perceptions of subsidiary managers of host country financial development plays a critical role in enhancing subsidiary exports. We explain the phenomenon by using the FSAs/CSAs theoretical framework (Rugman (1981), new internalization theory (Rugman and Verbeke 2001; Nguyen & Rugman 2015) and combine with the literature at the intersection of international trade, finance, and multinational activities (Foley and Manova 2015; Vaubourg 2016). By examining the impacts of subsidiary-level capability in financial management, we have shed new light on subsidiary export intensity. This is the core theoretical contribution of our study.

The findings of our study have important strategic implications for MNE subsidiary managers and policy makers. For MNE subsidiary managers, it is critical to understand the importance of subsidiary-level capability in financial management for their exporting. Building and strengthening this internal capability to support export activities is therefore likely to be strongly beneficial for MNE subsidiaries. Managers should not rush to exporting; instead, they should focus on an exporting strategy, which is based on the strengths of highly disciplined financial management capability as a subsidiary-specific advantage.

Our findings are also relevant for public policy because exporting contributes to the economic development of host countries. Our findings suggest that host country governments are likely to achieve objectives of economic development when they focus their attention on strengthening institutions. Specifically, policies which foster the development of financial systems and especially facilitate the access to financing at affordable cost will be helpful for all firms, including MNE foreign subsidiaries. Public policies are recommended to be directed to making credit finance accessible, available, and affordable because these financial resources are instrumental in funding export activities and guaranteeing sufficient liquidity for exporting.

REFERENCES

- Aghion, P., Mathias, D., & Patrick, R. 1999. Competition, Financial Discipline and Growth. *Review of Economic Studies*, 66 (4) (October): 825–852.
- Almodóvar, P., & Rugman, A.M. 2014. The M Curve and the Performance of Spanish International New Ventures. *British Journal of Management*, 25(1): 6-23.
- Almodóvar, P., & Rugman, A.M. 2015. Testing the Revisited Uppsala Model: Does Insidership Improve International Performance? *International Marketing Review*, 32(6): 1-29.
- Amiti, M., & Weinstein, D. 2011. Exports and financial shocks. *Quarterly Journal of Economics*, 126, 1841-1877.
- Antràs, P., & Foley, C.F. 2015. Poultry in motion: A study of international trade finance practices. *Journal of Political Economy*, 123(4): 853-901.
- Askenazy, P., Caldera, A., Gaulier, G., & Irac, D. 2011. Financial constraints and foreign market entries or exits: Firm-level evidence from France. *Review of World Economics*, 151(2): 231-253.
- Auboin, M. 2009. Restoring trade finance during a period of financial crisis: Stock taking of recent initiatives. Staff Working Paper, 2009-2016.
- Aulakh, P.S., & Mudambi, R. (2005). Financial Resource Flows in Multinational Enterprises: The Role of External Capital Markets. *Management International Review*, 45(3), 307-325.
- Autio, E., Sapienza, H.J., & Almeida, J.G. 2000. Effects of age of entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43(5): 909-924.

- Balachandra, B. & Williams, B. (2018). Effective governance, financial markets, financial institutions & crises. *Pacific-Basin Finance Journal*, 60: 1-15
- Baldwin, R. 1989. Exporting the capital markets: comparative advantages and capital markets imperfections, in AUDRETSCH D., SLEUWAEGEN L. and YAMAWAKI H. (eds.), *The convergence of international and domestic markets*, North Holland, Amsterdam.
- Baldwin, J., & Gu, B. 2003. Export Market Dynamics and Plant-Level Productivity: Impact of Tariff Reductions and Exchange-Rate Cycles. *Canadian Journal of Economics*, 36(3): 634–657.
- Barney, J.B. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17(1): 99–120.
- Baltagi, B., Dematriades, P., & Law, H. 2008. Financial development and openness: evidence from panel data. *Journal of Development Economics*, 89: 285-296
- Beck, T. 2003. Financial dependence and international trade. *Review of International Economics*, 11: 296-316.
- Becker, B., Chen, D., & Greenberg, J. 2013. Financial development, fixed costs and international trade. *Review of Corporate Financial Studies*, 2: 1-28.
- Bellone, F., Musso, P., Nesta, L., & Schiavo, S. 2010. Financial Constraints and Firm Export Behaviour. *The World Economy*, 33(3): 347-373.
- Berman, N., & Hericourt, J. 2010. Financial factors and the margins of trade: Evidence from cross-country firm-level data. *Journal of Development Economics*, 93(2): 206-217.
- Birkinshaw, J., & Hood, M. 1998. Multinational subsidiary evolution: Capability and charter change in foreign owned foreign subsidiary. *Academy of Management Review*, 23(4): 773–795.
- Birkinshaw, J.M. 1996. How multinational subsidiary mandates are gained and lost. *Journal of International Business Studies*, 27(3): 467–96.
- Breuer, W. & de Vargas, S.R. 2021. Some key developments in international financial management. *Journal of Business Economics*, 91: 595–615.
- Buckley, P.J., & Casson, M.C. 1976. *The Future of Multinational Enterprise*. Basingstoke and London: Macmillan.
- Buckley, P. & Casson, M. 2020. The internalization theory of the multinational enterprise: Past, present, and future. *British Journal of Management*, 31, 239–252.
- Cavanagh, A., Freeman, S., Kalfadellis, P. & Herbert, K. 2017. Assigned versus assumed: Towards a contemporary, detailed understanding of subsidiary autonomy. *International Business Review*, 26(6): 1168-1183.
- Chacar, A.S., Newburry, W., & Vissa, B. 2010. Bringing institutions into performance persistence research: Exploring the impact of product, financial, and labour market institutions. *Journal of International Business Studies*, 41(7): 1119-1140.
- Chang, S.J., van Witteloostuijn, & Eden, L. 2010. Common method variance in international business research. *Journal of International Business Studies*, 41: 178–181.
- Chaney, T. 2016. Liquidity constrained exporters. *Journal of Economic Dynamics and Control*, 72(C): 141-154.
- Cheng, D., Tan, Y. & Yu, J. 2021. Credit rationing and firm exports: Microeconomic evidence from small and medium-sized enterprises in China. *The World Economy*, 44(1): 286-311.
- Chen, J., Sousa, C.M.P., & He, X. 2016. The determinants of export performance research: A review of literature 2005-2014. *International Marketing Review*, 33(5): 626-670.
- Demir, B. & Javorcik, B. 2020. Trade finance matters: evidence from the COVID-19 crisis. *Oxford Review of Economic Policy*, 36, Issue Supplement_1, S397–S408.
- Desai, M.A., Foley, C.F., & Hines, J.R. (2004). A Multinational Perspective on Capital Structure Choice and Internal Capital Markets. *The Journal of Finance*, 59(6), 2451-2487.

- Didier, T., Levine, R., Montanes, R.L., and Schmukler, S.L. (2021). Capital market financing and firm growth. *Journal of International Money and Finance*, 118. Available at <https://doi.org/10.1016/j.jimonfin.2021.102459>.
- Do, Q. T., & Levchenko, A. 2007. Comparative advantage, demand for external finance, and financial development? *Journal of Financial Economics*, 86: 796-834
- Duanmu, J.L., Norbaeck, P.G., Lu, J.W. & Clegg, J. 202. Contraction under minimum wages? Operational and financial advantages of multinational subsidiaries in China. *International Business Review*, Available online <https://doi.org/10.1016/j.ibusrev.2021.101936>
- Dunning, J. H. 1988. The eclectic paradigm of international production: A restatement and some possible extensions. *Journal of International Business Studies*, 19(1): 1-31.
- Dunning, J. H. 1993. *Multinational Enterprises and the Global Economy*. Harlow: Addison-Wesley.
- Djankov, S., Freund, C., & Pham, C.S. 2010. Trading on time. *The Review of Economics and Statistics*, 92(1): 166-173.
- Eden, L., & Dai, L. 2010. Rethinking the O in Dunning's OLI Paradigm. *Multinational Business Review*, 8(2): 13-34.
- Eiteman, D.K., Stonehill, A.I. & Mofett, M.H. (2021). *Fundamentals of multinational finance*, global edition, 6th edition. Pearson, Boston
- Elligsen, T., & Vlachos, J. 2011. The theoretical case for trade finance in a liquidity crisis, in CHAUFFOURJP and MALOUCHEM. (eds), *Trade finance during the Great Trade Collapse*, World Bank, Washington DC.
- Elango, B. & Pangarkar, N. 2021. Home country institutional impact on the choice of direct vs. indirect exports: An emerging market perspective. *International Marketing Review*, 38(2): 387-411.
- Estrin, S., Meyer, K.E., Wright, M., & Foliano, F. (2008). Export Propensity and Intensity of Subsidiaries in Emerging Economies. *International Business Review*, 17(5): 574-586.
- Fama, E. 1980. Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2): 288-30
- Foley, C.F., & Manova, K. 2015. International trade, multinational activity, and corporate finance. *The Annual Review of Economics*, 7(1): 119-146.
- Giebel, M. & Kraft, K. 2020. Bank credit supply and firm innovation behavior in the financial crisis. *Journal of Banking & Finance*, 121. Available at <https://doi.org/10.1016/j.jbankfin.2020.105961>
- Greenwood, J., & Jovanovic, B. 1990. Financial development, growth, and the distribution of income. *Journal of Political Economy*, 98(5): 1076-110
- Girma, S., Greenaway, D., & Kneller, R. 2004. Does exporting increase productivity? A microeconomic Analysis of Matched Firms. *Review of International Economics*, 12(5): 855-866.
- Grant, R.M., Jammie, A.P., Thomas, H. 1988. Diversity, Diversification and Profitability among British Manufacturing Companies, (1972-1984). *Academy of Management Journal*, 31(4), 771-801.
- Greenaway, D., Guariglia, A., & Kneller, R. 2007. Financial Factors and Exporting Decisions. *Journal of International Economics*, 73(2): 377-395.
- Gripsrud, G., & Benito, G.R.G. 2005. Internationalization in retailing: modeling the pattern of foreign market entry. *Journal of Business Research*, 58(12): 1672-80.
- Gupta, G. & Mahakud, J. 2019. Alternative measure of financial development and investment-cash flow sensitivity: evidence from an emerging economy. *Financial Innovation*, 5:1 <https://doi.org/10.1186/s40854-018-0118-9>
- Gupta, P. & Chauhan, S. 2021. Firm capabilities and export performance of small firms: A meta-analytical review. *European Management Journal*, 39(5): 558-576.
- Hair, J. F., Black, W.C., Babin, B., & Anderson, R.E. 2010. *Multivariate data analysis*, 7th Edition. Pearson Prentice Hall.
- Harzing, A-W. 2000. Cross national industrial mail surveys: Why do response rates differ between countries? *Industrial Marketing Management*, 29(3): 243-254.

- Hoefele, A., Schmidt-Eisenlor, T., & Yu. 2016. Payment choice in international trade: theory and evidence from cross-country firm-level data. *Canadian Journal of Economics*. Available at <https://doi.org/10.1111/caje.12198>
- Huang, Y. & Temple, J. 2005. Does external trade promote financial development?”, University of Bristol Department of Economics Discussion Paper, 05/575.
- Hymers, S. H. 1976. The international operations of national firms: A study of direct foreign investment. Cambridge, MA: MIT Press.
- Jiang, Y., Khan, M.I., Zaman, F.M. & Iqbal, A. 2020. Financial development and trade in services: Perspective from emerging markets of Asia, South and Central America and Africa. *International journal of finance and economics*, 26 (3): 3306-3320
- Ichniowski, C., & Shaw, K. 2009. Insider econometrics: Empirical studies of how management matters. Working paper 15618. National Bureau of Economic Research.
- IMD.2012-2016. World Competitiveness Report. Available at <https://www.imd.org/research-knowledge/articles/2016-com-may/> [accessed March 30, 2021].
- Kumarasamy, D., & Singh, P. 2016. Access to finance, financial development and firm ability to export: Experience from Asian Pacific countries. *Asian Economic Journal*, 32(1): 15-38.
- Kletzer, K., & Bardhan, P. 1987. Credit markets and patterns of international trade. *Journal of Development Economics*, 27(1-2): 57-70.
- Kim, C.F., Margetis, S., & Pantzalis, C. 2009. Financial sector diversification and MNC valuation. *Journal of Multinational Financial Management*, 19: 343-354.
- Kroszner, R.S., Laeven, L., & Klingebiel, D. 2007. Banking crises, financial dependence, and growth. *Journal of Financial Economics*, 84(1): 187-228.
- Leibovici, F. (2021). Financial development and international trade. *Journal of Political Economy*, 129 (12). Available at <https://doi.org/10.1086/716564>
- Leonidou, L.C., Katsikeas, C.S., & Coudounaris, D.N. 2010. Five decades of business research into exporting: A bibliographic analysis. *Journal of International Management*, 16: 78-91.
- Levine, R. 1999. Law, finance, and economic growth. *Journal of Financial Intermediation*, 8(1): 8-35.
- Li, J., Lan, L. & Ouyang, Z. 2020. Credit constraints, currency depreciation and international trade. *Journal of International Money and Finance*, 104: 102-175.
- Low, P., & Chen, K. 2004. Diversification and capital structure: some international evidence. *Review of Quantitative Finance and Accounting*, 23: 55-71.
- Ma, X., Tong, T.W., & Fitza, M. 2012. How much does subnational region matter foreign subsidiary performance: Evidence from Fortune Global 500 Corporations’ investment in China. *Journal of International Business Studies*, 44: 66-87.
- Maes, E., Dewaelheyns, N., Fussc, and Van Hulle, C. 2019. The impact of exporting on financial debt choices of SMEs. *Journal of Business Research*, 102, 56-73.
- Magomedova, N., Achcaoucaou, F. & Miravittles, P. (2021). The nascence of a springboard subsidiary: drivers of the evolution of a subsidiary role. *Management Decision*, Available at <https://doi.org/10.1108/MD-10-2020-1368>
- Manova, K. 2008. Credit constraints, equity market liberalization and international trade. *Journal of International Economics*, 76, 33-47.
- Manova, K. 2010. Credit constraints and the adjustment to trade reform”, in PORTO G. and HOEKMAN B. (eds.), Trade adjustment costs in developing countries: impact, determinants and policy responses, The World Bank.
- Manova, K. 2013. Credit constraints, heterogeneous firms, and international trade. *The Review of Economic Studies*, 80 (2): 711-744.
- Manova, K., Wei, S.J., & Zhang, Z. 2015. Firm Exports and Multinational Activity under Credit Constraints. *Review of Economics and Statistics*, 97(3):574-588.

- McDonald, F. Warhurst, S., & Allen, M. 2008. Autonomy, embeddedness, and the performance of foreign owned subsidiaries. *Multinational Business Review*, 16 (3): 73–92.
- Melitz, M. 2003. The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*, 71: 1695-1725.
- Meyer, K.E., Li, C. & Schott, A.P. 2020. Managing the MNE subsidiary: Advancing a multi-level and dynamic research agenda. *Journal of International Business Studies*, 51 (4), 538-576.
- Miravittles, P., Mora, T., & Achcaoucaou, F. 2018. Corporate financial structure and firm's decision to export. *Management Decision*, 56(7): 1526-1540.
- Minetti, R., & Zhu, S.C. 2011. Credit Constraints and Firm Export: Microeconomic Evidence from Italy. *Journal of International Economics*, 83(2): 109-125.
- Mudambi, R. (1999). MNE Internal Capital Markets and Subsidiary Strategic Independence. *International Business Review*, 8(2), 197-211.
- Muuls, M. 2015. Exporters, Importers and Credit Constraints. *Journal of International Economics*, 95(2): 333-343.
- Myers, S. 1984. The capital structure puzzle. *Journal of Finance*, 39(3): 575-597.
- Myers, S., & Majluf, N. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2): 187-221.
- Nguyen, Q.T.K. 2017. Multinationality and performance literature: A critical literature review and future research agenda. *Management International Review*, 57(3): 311-347.
- Nguyen, Q.T.K. (2021). *Intangible assets of MNE foreign subsidiaries: The role of internal financial resources and host country institution*. In: Verbeke, A., Van Tulder, R., Rose, E.L., Wei, Y. (Eds.) *International Business and Multi-layered Institutional Change (Progress in International Business Research, Vol. 15)*. Emerald Publishing.
- Nguyen, Q.T.K., & Almodóvar, P. 2018. Export intensity of foreign subsidiaries of multinational enterprises: The role of trade finance availability. *International Business Review*, 27(1):231-245.
- Nguyen, Q.T.K., & Rugman, A.M. 2015. Internal equity financing and the performance of multinational subsidiaries in emerging economies. *Journal of International Business Studies*, 46(4): 468-490.
- Nguyen, Q.T.K & Kim 2020. The multinationality and performance relationship: Revisiting the literature and exploring the implications. *International Business Review*, 29 (2). Available at <https://doi.org/10.1016/j.ibusrev.2020.101670>.
- Nizam, R., Karim, Z.A, Sarmidi, T.S. & Rahman, A. 2021. Financial inclusion and firm growth in ASEAN-5 countries: A new evidence using threshold regression. *Finance Research Letters*, 41. Available at <https://doi.org/10.1016/j.frl.2020.101861>
- Noe, T.H. 2000. Creditor rights and multinational capital structure. Working paper. Tulane University, New Orleans.
- North, D. 1990. *Institutions, institutional change, and economic performance*. Cambridge: Cambridge University Press.
- Padmaja, M. & Sasidharan, S. 2020. Financing constraints and exports: evidence from India. *Journal of Economics and Finance*, 45: 118–145.
- Paul, J. & Dhiman, R. (2021). Three decades of export competitiveness literature: systematic review, synthesis, and future research agenda. *International Marketing Review*, 38(5): 1082-1111. <https://doi.org/10.1108/IMR-12-2020-0295>.
- Perry, R. H., Charlotte, B., Isabella, M., & Bob, C. (2004). *SPSS explained*. Routledge; 1st edition.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879-903.

- Petrovito, F. & Pozzolo, A.F. 2019. Credit constraints and exports of SMEs in emerging and developing countries. *Small Business Economics*, 56: 311-332.
- Reeb, D., Sakakibara, M., & Mahmood, I.P. 2012. From the editors: Endogeneity in international business research. *Journal of International Business Studies*, 43(3): 211-218.
- Ross S.A. 2004. Neoclassical finance. Princeton University Press, Princeton.
- Roth, K., & Morrison, A. J. 1990. An empirical analysis of the integration-responsiveness framework in global industries. *Journal of International Business Studies*, 21(4): 541-564.
- Rugman, A.M. 1976. Risk reduction by international diversification. *Journal of International Business Studies*, 7(2): 75-80.
- Rugman, A.M. 1979. International Diversification and the Multinational Enterprise. Lexington, M.A: Health.
- Rugman, A.M. 1980. Internalization theory and corporate international finance. *California Management Review*, 23(2): 73-79.
- Rugman, A.M. 1981. *Inside the Multinationals: The Economics of Internal Markets*. New York: Columbia University Press.
- Rugman, A. M. 2010. Reconciling Internalization Theory and the Eclectic Paradigm. *Multinational Business Review*, 18(2): 1-12.
- Rugman, A.M., & Collinson, S. 2012. *International Business*, 6th Edition. Harlow, Essex: Pearson.
- Rugman, A.M., & Verbeke, A. 1992. A note on the transnational solution and the transaction cost theory of multinational strategic management. *Journal of International Business Studies*, 23(4): 761-772.
- Rugman, A.M., & Verbeke, A. 2001. Subsidiary-specific advantages in multinational enterprises. *Strategic Management Journal*, 22(3): 237-250.
- Rugman, A. M., & Verbeke, A. 2008. Internalization theory and its impact on the field of international business. In Boddewyn, J.J. (Ed.), *International business scholarship: AIB fellows on the first 50 years and beyond (research in global strategic management)*: 155-174.
- Rugman, A.M., Verbeke, A., & Nguyen, Q.T.K. 2011. Fifty years of international business and beyond. *Management International Review*, 51(6): 755-786.
- Salomon, R., & Shaver, J. 2005. Export and domestic sales: Their interrelationship and determinants, *Strategic Management Journal*, 26(9): 855-871.
- Schmidt-Eisenlohr, T. 2013. Towards a theory of trade finance. *Journal of International Economics*, 91(1): 96-112.
- Slangen, A., & Hennart, J-F. 2008. Do foreign greenfields outperform foreign acquisitions or vice versa? An institutional perspective. *Journal of Management Studies*, 45(7): 1301-1328
- Sousa, C., Martínez-López, F., & Coelho, F. 2008. The determinants of export performance: A review of the research in the literature between 1998 and 2005. *International Journal of Management Reviews*, 10(4): 343-374.
- Spender, J. C. 1996. Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17(Winter Special Issue): 45-56
- Stiglitz, J., & Weiss, A. 1983. Incentive effects of terminations: Applications to the credit and labour markets. *American Economic Review*, 73(5): 912-927.
- Svalery, H., & Vlachos, J. 2002. Markets for risk and openness to trade: how are they related? *Journal of International Economics*, 57: 369-395.
- Teece, D.J. 1998. Research directions for knowledge management. *California Management Review*, 40(3): 289-293.
- Vaubourg, A-G. 2016. Finance and international trade: A review of the literature. *Revue d'économie politique*, 126(1): 57-87.
- Verbeke, A. & Lee, I. 2021. *International Business Strategy*, 3rd edition. Cambridge University Press.
- Wei, Z., & Nguyen, Q.T.K. 2017. Subsidiary strategy of emerging market multinational enterprises: A home country institutional perspective. *International Business Review*, 26(5): 1009-1021.

- Wei, Z., & Nguyen, Q.T.K. 2019. Local responsiveness strategy of foreign subsidiaries of Chinese multinationals: The impacts of relational assets, market-seeking FDI, and host country institutional environments. *Asia Pacific Journal of Management*, 37: 661-692
- Williamson, O. E. 1991. Comparative economic organization: The analysis of discrete structural alternatives. *Administrative Science Quarterly*, 36(2):269-296.
- Wooldridge, J.M. 2009. *Introductory Econometrics: A Modern Approach*. South Western Cengage Learning.
- World Bank. 2012-2016. World Development Indicators. Available at <https://datacatalog.worldbank.org/dataset/world-development-indicators> [accessed March 30, 2021].
- World Bank. 2021. Financial development. Available at <https://www.worldbank.org/en/publication/gfdr/gfdr-2016/background/financial-development>

Figure 1: Conceptual model

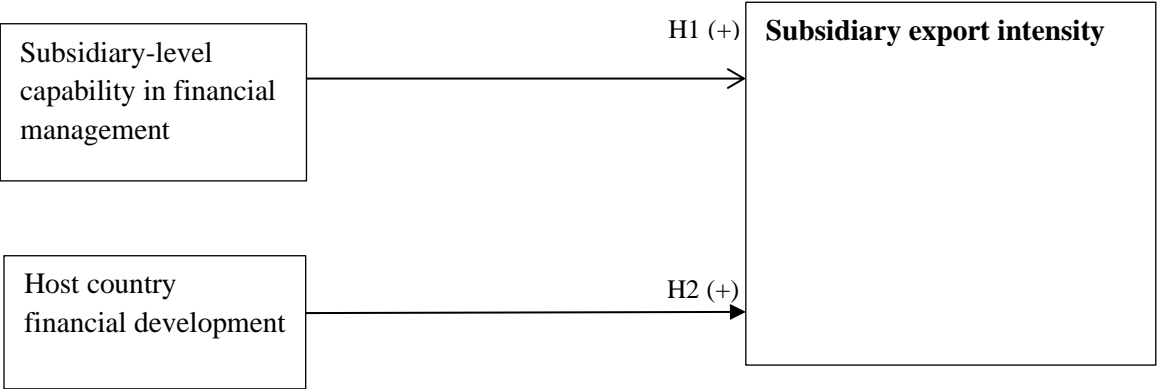


Table 1: Sample Structure by Countries and Sectors

Countries	Subsidiaries		Sectors	
	<i>Frequency</i>	<i>Percent</i>	<i>Manufacturers (percent)</i>	<i>Services (percent)</i>
Malaysia	18	13.33	50.00	50.00
Indonesia	19	14.07	36.84	63.15
The Philippines	11	8.14	54.54	45.45
Singapore	28	20.74	39.28	60.71
Thailand	23	17.03	52.17	47.82
Vietnam	36	26.66	47.22	52.77
Total	135	100.00		

Table 2 Descriptive statistics and correlation matrix

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1 Subsidiary export intensity	31.66	37.37	1											
2 Subsidiary-level capability in financial management	3.41	1.01	.50***	1										
3 Host country financial development	3.27	2.10	.26***	.23**	1									
4 Subsidiary size (employees)	1.78	1.21	-.20**	-0.00	0.02	1								
5 Subsidiary invested capital (log)	15.83	2.67	-0.02	-0.01	0.15	.36***	1							
6 Subsidiary age (log)	3.14	0.64	-.29***	-0.13	-0.08	0.16	0.15	1						
7 Subsidiary autonomy	3.48	1.08	-0.03	0.05	0.09	0.07	-0.08	0.01	1					
8 Parent firm size (log)	9.96	1.62	-.24***	0.01	0.14	.42***	.23***	0.11	0.11	1				
9 Host country GDP per capital (log)	8.27	1.36	.27***	.20**	-.22**	-.24***	-0.11	.24***	-0.00	-.34**	1			
10 Host country credit per GDP (log)	4.35	0.37	0.00	0.06	0.05	0.16	0.03	-0.12	0.13	0.13	0.04	1		
11 Sectors	0.46	0.50	0.14	0.12	.39***	0.06	0.16	-0.02	-0.08	0.05	-0.04	0.07	1	
12 Host country skilled labour	4.84	1.45	.21	.35***	.22***	-0.07	-0.10	0.01	0.07	-0.06	0.08	-0.00	-0.11	1

Note: n=135. *p<0.1; **p<0.05; ***p<0.01.

Table 3: Multiple OLS regressions by host country clusters

		<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
<i>Independent Variables</i>	Subsidiary-level capability in financial management		17.51*** (2.81)	13.70*** (2.71)
	Perceptions of subsidiary managers on host country financial development conditions		2.65** (1.35)	3.86*** (1.39)
<i>Control Variables</i>	Subsidiary size	-2.02 (2.80)		-1.80 (2.46)
	Subsidiary invested capital (log)	1.32 (1.18)		1.00 (1.03)
	Subsidiary age (log)	-22.10*** (4.95)		-16.50*** (4.41)
	Subsidiary autonomy	0.44 (2.71)		-1.25 (2.38)
	Parent firm size	-1.76 (2.08)		-3.11 (1.82)
	Host country GDP per capital (log)	9.39*** (2.43)		7.27*** (2.27)
	Host country domestic credit to GDP (log)	-5.06 (8.15)		-4.71 (7.08)
	Sectors	11.18** (5.86)		1.28 (5.52)
	Constant	38.99 (46.90)	-36.82*** (9.95)	6.65 (41.02)
	R ²	0.25	0.28	0.45
Adjusted R ²		0.21	0.27	0.40
F-test ^(o)		5.41***	25.68***	10.06***

Notes: n = 135. Variables are shown with unstandardized coefficients followed by standard errors in brackets. *p<0.1;

p<0.05; *p<0.01. Robust standard errors clustered by host countries.

Table 4: Two-stage least square (2SLS) regressions using instrumental variables

		<i>First stage Subsidiary- level capability in financial management</i>	<i>Second stage Export intensity</i>	<i>Second stage Export intensity (full model)</i>
<i>Independent Variables</i>	Perceptions of subsidiary managers on host country skilled labour	0.24*** (0.05)		
	Subsidiary-level capability in financial management (predicted value)		22.20* * (8.82)	13.92** (8.09)
	Perceptions of subsidiary managers on host country financial development conditions			4.82*** (1.54)
<i>Control Variables</i>	Subsidiary size			-0.83 (2.66)
	Subsidiary invested capital (log)			1.03 (1.12)
	Subsidiary age (log)			-21.58*** (4.67)
	Subsidiary autonomy			-1.12 (2.58)
	Parent firm size (log)			-2.18 (1.97)
	Host country GDP per capita (log)			10.58*** (2.34)
	Host country domestic credit to GDP (log)			-5.65 (7.68)
	Sectors			4.41 (6.14)
Constant		2.21*** (0.28)	-44.10 (30.28)	-17.78 (51.76)
R ²		0.12	0.04	0.35
Adjusted R ²		0.11	0.04	0.30
F-test ^(o)		19.19***	6.32**	6.68***

Notes: n = 135 Variables are shown with unstandardized coefficients followed by standard errors in brackets. *p<0.1; **p<0.05; ***p<0.01. Robust standard errors clustered by host countries.